

ABSTRACT

5 A process for controlling the mycelial morphology of
a microorganism belonging to the genus Mortierella during
culturing and a process for producing unsaturated fatty
acids and a lipid containing them by using a culture
medium for culturing a microorganism in which phosphate
ions, potassium ions, sodium ions, magnesium ions, and
calcium ions in the culture medium are in the range of 5
10 to 60 mM, 5 to 60 mM, 2 to 50 mM, 0.5 to 9 mM, and 0.5 to
12 mM, respectively, characterized in that the
microorganism belonging to the genus Mortierella is
cultured in a culture medium containing phosphate ions in
the range of 5 to 60 mM, potassium ions in the range of 5
15 to 60 mM, sodium ions in the range of 2 to 50 mM,
magnesium ions in the range of 0.5 to 9 mM, and calcium
ions in the range of 0.5 to 12 mM, respectively, to
produce unsaturated fatty acids and the lipid containing
them, and the culture medium for culturing a
20 microorganism having phosphate ions, potassium ions,
sodium ions, magnesium ions, and calcium ions in the
range of 5 to 60 mM, 5 to 60 mM, 2 to 50 mM, 0.5 to 9 mM,
and 0.5 to 12 mM, respectively.